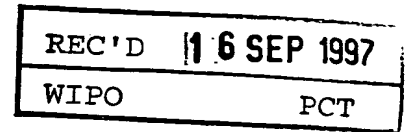


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hereby certify that the annexed are true copies of the Provisional specification and
drawing(s) as filed on 29 August 1996 in connection with Application No. PO 2011
for a patent by XCELLINK CORPORATION filed on 29 August 1996.

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DAVID DANIEL CLARKE
ASSISTANT DIRECTOR PATENT SERVICES



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P02011	29 AUG. 96
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PROVISIONAL SPECIFICATION

FOR THE INVENTION ENTITLED:

"FUNDS TRANSFER SYSTEM AND METHOD"

Applicant:

XCELLINK CORPORATION

The invention is described in the following statement:

This invention relates to a system and method for automatically transferring funds from a customer's account to a trader's account.

Electronic Funds Transfer at Point of Sale (EFTPOS) technology is well-known where, in order to process a transaction, a customer's card is read by a terminal so
5 that funds are transferred from an account of the customer to the particular trader. Smart cards are also well-known in which the card has a built in microprocessor storing a credit limit or funds of a certain value for a customer, the balance of which can be remotely debited or replenished.

In Australian Patent Application No. 66417/94 there is disclosed a funds transaction
10 device incorporating a mobile telephone and keypad device. A CPU of the device stores the trader account details and reads account data from a customer's credit or debit card which is swiped and read by a card reader of the device. The customer then enters account type, PIN and dollar amount of the goods to be purchased via the keypad. Communication is enabled through the mobile telephone to a host
15 EFTPOS network which is connected to the particular bank or credit establishment of the customer. Both customer and trader data are transmitted so that funds are transferred from the customers account to the trader's account.

Australian Patent Application No. 33658/95 discloses a portable terminal which can be used to transfer funds from a customer's account to a trader's account. The
20 terminal communicates with a host computer through a cellular and/or fixed communications network. To effect a transaction, the customer either swipes a debit or credit card or inserts a smart card. After a PIN is entered by the customer, the terminal prompts the customer to enter a dollar amount, identify the trader and the item or service being purchased. After verification, the debit/credit account is
25 debited through the remote host computer or in the case of a smart card being used the onboard processor debits the card. The trader is then credited by the dollar amount.

Australian Patent Application No. 73418/94 discloses a mobile telephone which incorporates a smart card reader/writer designed to receive one of a variety of different types and makes of card inserted therein so that the phone can read from or write to the smart card. The phone is adapted to communicate over a cellular network and via a Public Switched Telephone Network (PSTN) with a host financial institution so that payment for goods or services can be debited from the customer's smart card and credited to the particular trader's account.

In all the above mentioned prior art, to effect a payment, significant data entry is required by the customer and by the trader at the point of sale of the trader. After completing the particular data entries a dual accounting process takes place in which funds are transferred from a customer's account into a trader's account and then a record is made of the removal of the debt. These processes involve physical actions by both trader and customer which are time-consuming and prone to error regarding data entry. Furthermore, a person readable account is required and the customer is needed to initiate the payment.

The present invention provides for a system that automatically transfers funds from a customer's account to a trader's account that requires minimum data entry and may be performed remotely.

Accordingly, the present invention provides a system for automatically transferring funds of a customer to a trader, said system comprising:

a user terminal for receiving and processing information representative of said customer and billing information representative of said trader, a local link providing communication between said user terminal and said trader billing information, and a communications network enabling the user terminal to communicate with a service provider, wherein the user terminal senses and receives said billing information in the vicinity a trader facility through said local link, transmits said billing information

and customer information to the service provider over the communications network, whereupon the service provider transfers funds from said customer to said trader under the authorisation of said customer to effect a transaction between said customer and said trader.

- 5 Preferably, the information representative of said customer is stored on a card, said card adapted to be inserted into said user terminal.

Preferably, the user terminal comprises a communications terminal, a computing processor integrated with the communications terminal and a detector for sensing the trader billing information.

- 10 Preferably, the user terminal includes a card reader for reading the stored information on the card.

Preferably, the customer authorizes a transaction by entry of a PIN on the user terminal.

- 15 Preferably, the card senses and receives said trader billing information and has a computing processor to process information prior to being forwarded to the service provider.

The present invention also provides for a method for automatically transferring funds of a customer to a trader, said method comprising the steps of:

- 20 - sensing and receiving on a user terminal, trader billing information from a trader facility, when the user terminal is in the vicinity of the trader facility, via a local link between said user terminal and said trader facility,

- processing on said user terminal said billing information together with information representative of said customer,
- transmitting said billing information and said customer information to a service provider over a communications network, and
- 5 - transferring funds from said customer to said trader via the service provider under the authorisation of said customer to effect the transaction between said customer and said trader.

Preferably, the information representative of said customer is stored on a card, said card adapted to be inserted into said user terminal.

- 10 Preferably, the user terminal comprises a communications terminal, a computing processor integrated with the communications terminal and a detector for sensing the trader billing information.

Preferably, the user terminal includes a card reader for reading the stored information on the card.

- 15 Preferably, the customer authorizes a transaction by entry of a PIN on the user terminal.

Preferably, the card senses and receives said trader billing information and has a computing processor to process information prior to being forwarded to the service provider.

- 20 A preferred embodiment of the invention is hereinafter described, by way of example only, with reference to the accompanying drawings wherein:

Figure 1 shows a system for transferring funds from a customer's account to a trader's account in accordance with the present invention.

Figure 1 shows a system 50 that comprises a user terminal 100 in communication with a trader's billing system 200 through local link 300. To implement a transaction on a customer's behalf, the user terminal 100 senses information identifying a trader and into which account of the trader 700 funds will be transferred, retrieves information identifying the customer's account 600 from which funds will be withdrawn, and forwards both sets of information to a service provider 500 over the communications network 400 whereby funds are transferred from the customer account 600 to the trader account 700. This may be approved by the customer on entry of a PIN on the user terminal 100.

The user terminal 100 may be a remote wired or unwired access terminal consisting of a communications terminal such as a telephone and more particularly, a mobile telephone having data keys and a display screen or other display facility, or a computing processor which may be integrated into the communications terminal. The computing processor may be incorporated in an access card 800, the access card 800 being adapted to fit into the communications terminal. Optionally the user terminal 100 can include a card reader 150, being a mobile EFTPOS device, for reading data from the access card 800. The communications terminal may be a fixed terminal or cellular terminal that includes a data interface, all of which is compatible with communications network 400.

The trader billing system 200 is a system satisfying all billing functions required by the trader and is located at a trader's facility or terminal. The billing system 200 establishes a financial liability record in the service providers accounting system for each customer. It is capable of presenting transaction information in any form specified by the trader and shows details of transactions when these are implemented under the control of the trader, or the customer, or the service provider to be

discussed later.

The resultant billing information is an output by the trader's facility at the point of operation by the customer. The user terminal 100 may read the trader's details or information identifying a trader through a trader's card located at the trader's facility
5 or read it through the local link 300 remotely from the trader's facility.

The user terminal 100 may incorporate a data acquisition system, such as an infra-red detector, for detecting a trader's billing information and a trader's destination account information for which funds are to be transferred into. The detector is activated by the trader's facility through the communications local link 300 and this
10 information is then read and stored by the user terminal 100. Alternatively, the card reader of the user terminal 100 can read the trader's card at the trader's facility and retrieve the billing system information and trader account details. The data acquisition system may alternatively be an ultrasonic detector, radio frequency detector or magneto-inductive detector depending on the communications used in
15 the local link 300.

The communications link 300 is the means by which the customer's telephone of the user terminal 100 is provided with the identity of the trader, the identity of the trader's banking account to which payment is effected and sufficient data related to the trader's billing system to include the dollar amount of the goods and/or services
20 and what the goods and/or services relate to. The local link 300 is duplex in that it allows two-way communication on different channels. On one channel, the trader's data will be transmitted to the customer's phone and the reverse channel is used for confirmation to the trader that a transaction has been completed and for other handshaking protocols. The duplex communications link may be one of
25 several types of link such as modulated infra-red, magneto-inductive loop, modulated ultrasonic and radio frequency in each direction. The detector located in the user terminal 100 will accordingly be of a type corresponding to the data

transmission type and frequencies used on the local link 300.

Once the trader's details have been received by the user terminal 100, details of the customer's account from which funds will be withdrawn are read from the card 800 of the customer by the card reader. This uses the established circuit through the
5 communications network 400.

The customer's phone subsequently calls or dials automatically the service provider 500, such as a banking system, over the communications network 400 whereby a conventional EFTPOS link is established. The service provider 500 has access to each of the customer's account 600 and the trader's account 700. The customer is
10 informed of the processes being conducted by data appearing on the display facility of the telephone. When the customer is satisfied that the correct details of the transaction e.g. that trader information, transaction amount and accounts details have been entered and processed, the customer enters a PIN to authorise a processing of the transaction. A message is then displayed to indicate to the customer that the
15 transaction is complete, and a signal is also sent via links 400 and 300 to the trader's facility to indicate completion of the transaction. Link 250 may be used by the trader to verify a transaction or to access particular details of accounts.

The communications network 400 may be a publicly available fixed network, such as the PSTN, for wide applications or a cellular network for terrestrially based
20 communications for fixed geographic areas, or it may be a satellite based network for global communications. The network may also incorporate ISDN protocols, in which case the ETSI standard is likely to be used.

Preferably, the technology provided throughout the communications network 400 permits duplex data transmission at a data rate sufficient to limit the processing time
25 associated with a transaction to a short period, e.g. 5 seconds.

The service provider 500 may be a banking system conventionally interconnected with and part of the automatic teller machine (ATM) services provided in wired systems. Therefore, all of the services available through ATMs are equally available at the remote customer terminal/trader terminal or facility. The service provider can
5 manage an accounting system on behalf of a trader and generate demands for payment using a billing system of the trader. In this situation, the billing system will be integrated with the banking system insofar as transactions are traceable. The user terminal must be able to access a service provider system to the level necessary to determine the financial liability of the customer and the location and identity of
10 the destination account i.e. of the trader.

The card 800, adapted to be inserted into the mobile telephone of the user terminal 100, has a built in computing processor, the card being unique to each customer. The computing processor of the card provides sufficient data processing to accept a trader's billing and identification data. The card incorporates a sensor of the type
15 previously described, in relation to the mobile phone, to sense the trader's data. The card combines this data with the customer's funds source data, read by card reader 150, and transmits these to the service provider 500 over communications network 400, using protocols well established for a mobile EFTPOS device.

Irrespective of the physical form of the card 800, it will incorporate the following
20 protocols:

- (a) A customer access protocol. In this operational mode, the card 800 will enable, in conjunction with relevant security devices, keypad access. The keypad of the telephone may be used or the keypad may be incorporated in the card interface reader. In its basic form, the card incorporates a magnetic
25 strip or other recording mechanism which provides identification and data checking only. The operating processes will be conducted by the service provider at its central processing sites, whilst the user terminal processes will

provide data management and conversion protocols. This customer access protocol satisfies both credit and debit type accounts.

- 5 (b) A stored - value protocol. In this mode, the card 800 is preconditioned to store a financial value which is available for transaction purposes as either a pre-paid value or as a credit limit.

The card reader of the user terminal 100 is integrated with the mobile telephone where the computing processor is part of the telephone. In this case, when the card is placed in the phone such that the card reader is able to start reading data from the card, it will automatically initiate the computing functions to process a transaction.

10 The reader sends signals to the computing processor to establish the circuit on communications network 400 and completing the transaction upon entry of a PIN by the customer using the telephone.

The card reader and card can also form part of a stand-alone computing system such as a PC, generally of a portable "laptop" type or of the "Notebook" class, where the

15 PC effectively replaces the mobile phone as the user terminal. The PC essentially acts as a computing processor and has incorporated into it a data interface to permit communication with the service provider over communications network 400. Alternatively, the on-board processor of the card may perform the necessary data processing, such as the customer account details and the trader account details,

20 sensed at the point of sale of the trader. The card reader is integrated with a commercially common access port, such as a PC Card port or a PCMCIA Card port, to permit the necessary protocols for data transfer between the reader and the computing processor. The card indicates the source of where funds are to be withdrawn from the customer's account. Specific entries may be made such as a

25 PIN via the keyboard to the PC.

The system 50 provides the following functions during the period that the customer or trader is operating the user terminal:

- 5 (a) extracting the billing information from the trader through link 300 with processing undertaken through the card 800 or by other means incorporated into the user terminal;
- (b) debit a nominated financial account requested by the customer. Such an account could be a debit, credit or stored - value account associated with the card;
- 10 (c) transfer funds from the nominated account to the trader's account so that these funds are available to the trader without further customer activity; and
- (d) accomplish any financial transaction between traders or other organisations for which the provider is an agent.

The user terminal may alternatively be under the control of the trader, that is, part of the trader's facility. In this situation, the card 800 of the customer will contain
15 all the information relevant to the customer, such as account type and identification, needed to perform a transaction. The card is read by the terminal, which already has the information relating to the trader, and these sets of data are transmitted to the service provider 500 over the communications network 400. This occurs after financial liability of the customer has been established. In the manner previously
20 described, the customer enters the PIN on a terminal to authorize a transaction and funds are transferred by the service provider from the nominated customer account to the trader's account.

The user terminal may be under the control of the customer i.e. the terminal being the mobile phone or PC of the customer, as described hereinbefore, where the link 300 is used to access the trader's identification and account data.

5 The user terminal may alternatively be under the control of the service provider, as a service provided to the trader, at the point of operation of the trader which is also common to the customer. In this situation, the card used by the customer is the means by which the customer's account is accessed.

10 Examples of how the system 50 may be used include an entry key into an area governed by the trader, the entry being allowed under the control of the customer by entry of a PIN. Once the transaction is authorised, entry to the area is enabled. This may include a key on a road way such as a tollway. Another example may be a condition of the performance of a service by a trader is that the card is sensed, in which case the duration of the sensing of the card may be an input to the billing system which may operate progressively, or once only at the termination of service.
15 In the case of a tollway, for example, more than one sensing of the card may be necessary to determine all the billing information.

The system 50 may also be used in interactive pay-TV applications, wherein a trader may display their wares on a TV and a transaction effected by a customer using a user terminal of the type previously described. The set-top box associated
20 with the pay-TV system may be used to provide the billing information and trader account information. A telephone channel that the pay-TV system uses may also be used as the reverse channel for confirmation to the trader of the transaction being completed.

Since modifications within the spirit and scope of the invention may be readily effected by persons skilled in the art, it is to be understood that the invention is not limited to the particular embodiment described, by way of example, hereinabove.

DATED: 28 August 1996

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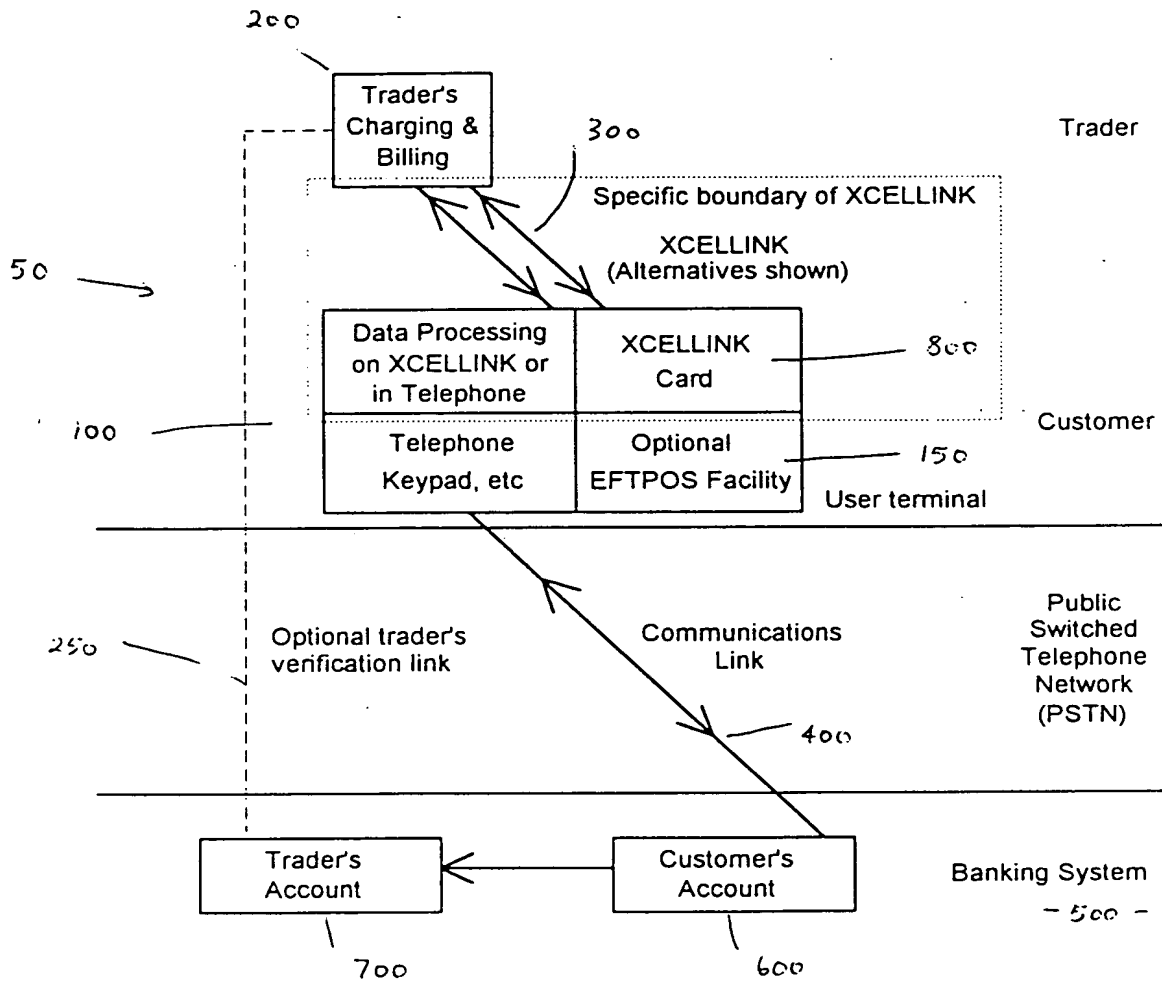


FIGURE 1

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